This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (original) An isolated nucleic acid molecule, preferably encoding a fibrinogen-binding-polypeptide, comprising a nucleic acid sequence which is selected from the group comprising

a) a nucleic acid having at least 70% identity to a nucleic acid sequence which is selected from the group comprising SEQ ID NO 1 to SEQ ID NO 6.

b) a nucleic acid which is essentially complementary to the nucleic acid of a),

c) a nucleic acid which anneals under stringent hybridisation conditions to the polynucleotide of a) or b)and

d) a nucleic acid which, but for the degeneracy of the genetic code, would hybridize to the nucleic acid defined in a), b) or c).

2. (currently amended) An isolated nucleic acid molecule, preferably encoding an adhesion factor or a fragment thereof, comprising a nucleic acid sequence which is selected from the group comprising

a) a nucleic acid having at least 70% identity to a nucleic acid sequence set forth in ~~Seq~~ SEQ ID NO:7, ~~Seq~~ SEQ ID NO:8, ~~Seq~~ SEQ ID NO:9 or ~~Seq~~ SEQ ID NO:10.

b) a nucleic acid which is essentially complementary to the nucleic acid of a),

c) a nucleic acid comprising at least 15 sequential bases of the nucleic acid of a) or b),

d) a nucleic acid which anneals under stringent hybridisation conditions to the nucleic acid of a), b) or c) and

e) a nucleic acid which, but for the degeneracy of the genetic code, would hybridize to the nucleic acid defined in a), b), c) or d).

3. (original) The isolated nucleic acid molecule according to claim 1 or 2, whereby the identity is at least 80 %, preferably at least 90 %, more preferably 100 %.

4. (currently amended) The isolated nucleic acid molecule according to claim 1 or ~~3~~ 2, whereby the nucleic acid molecule encodes a fibrinogen-binding-protein comprising at least one repeat of an amino acid ~~motive~~ motif comprising 16 amino acids.

5. (currently amended) The isolated nucleic acid molecule according to claim 4, whereby the encoded fibrinogen-binding protein comprises 19 repeats of the amino acid ~~motive whereby the amino acid motive is the one specified in any of claims 7 and 15~~ motif.

6. (currently amended) The isolated nucleic acid molecule according to claims ~~2~~ 1 or ~~3~~ 2, whereby the nucleic acid molecule encodes an adhesion factor which interacts with epithelial cells~~, preferably human epithelial cells~~.

7. (currently amended) An isolated nucleic acid molecule encoding for a polypeptide whereby the polypeptide comprises an amino acid ~~motive~~ motif, whereby the amino acid ~~motive~~ motif is G-N/S/T-V-L-A/E/M/Q-R-R-X-K/R/W-A/D/E/N/Q-A/F/I/L/V/Y-X-X-K/R-X-X (SEQ ID NO 222).

8. (currently amended) The nucleic acid according to ~~any of~~ claims 1 ~~to 7~~ or 2, wherein the nucleic acid is DNA, RNA or mixtures thereof~~, preferably the nucleic acid molecule is isolated from a genomic DNA~~.

9. (currently amended) A vector comprising a nucleic acid molecule according to ~~any of~~ claims 1 ~~to 8~~ or 2.

10. (currently amended) The vector according to claim ~~8~~ 9, wherein the vector is ~~adapted for recombinant~~ an expression ~~of the polypeptide encoded by any of the nucleic acid molecules according to any of claims 1 to 8~~ vector.

11. (currently amended) A ~~cell, preferably a~~ host cell, comprising the vector according to claim 9 ~~or 10~~.

12. (currently amended) A ~~polypeptide, preferably a~~ fibrinogen-binding-polypeptide ~~and/~~or an adhesion factor, or biologically active fragment thereof ~~comprising an amino acid sequence, whereby the amino acid sequence is~~ encoded by a the nucleic acid molecule according to ~~any one of~~ claims 1 ~~to 8~~ or 2 ~~and fragments of said polypeptide~~.

13. (currently amended) A ~~polypeptide, preferably a~~ fibrinogen-binding-polypeptide ~~and/~~or an adhesion factor, comprising ~~an amino acid sequence, whereby~~ the amino acid sequence ~~is~~ selected from the group ~~comprising~~ consisting of ~~Seq~~ SEQ ID NO:11 to 20.

14. (currently amended) A ~~polypeptide, preferably a~~ fibrinogen-binding-polypeptide ~~and/~~or an adhesion factor, comprising ~~an amino acid sequence, whereby~~ the amino acid sequence ~~is~~ selected from the group ~~comprising~~ consisting of ~~Seq~~ SEQ ID NO:113 to 205.

15. (cancelled)

16. (cancelled)

17. (cancelled)

18. (currently amended) A pharmaceutical composition~~, especially a vaccine,~~ comprising ~~a~~ the polypeptide or a fragment thereof of claims ~~12 to 15~~ 38 or a the nucleic acid molecule ~~according to any~~ of claims ~~1 to 8~~ 7.

19. (currently amended) The pharmaceutical composition according to claim 18, further comprising~~characterized in that it comprises~~ an immunostimulatory substance~~, whereby the immunostimulatory substance is preferably~~ selected from the group ~~comprising~~ consisting of

polycationic polymers, immunostimulatory deoxynucleotides (ODNs), synthetic KLK peptides, neuroactive compounds, alumn, Freund's complete or incomplete adjuvants ~~or~~ and combinations thereof.

20. (currently amended) ~~Use of a polypeptide according to any one of the claims 12 to 15 or a fragment thereof for the manufacture of a medicament, especially for the manufacture of a vaccine against~~ The pharmaceutical composition of claim 18 for treating a bacterial infection.

21. (currently amended) An antibody, or ~~at least an effective~~ antigen-binding part thereof, which specifically binds to the polypeptide ~~according to~~ of claims ~~12 to 15~~ 38.

22. (currently amended) The antibody according to claim 21, ~~wherein the antibody is~~ selected from the group ~~comprising~~ consisting of monoclonal antibodies, polyclonal antibodies, chimeric antibodies, humanized antibodies and fragments of each thereof.

23. (cancelled)

24. (currently amended) ~~Use of~~ A pharmaceutical composition comprising the antibody according to claim 21 or 22 ~~for the preparation of a medicament for treating or preventing bacterial infections, especially *Streptococcus agalactiae* infections~~.

25. (currently amended) A method for identifying an antagonist capable of reducing or inhibiting the activity of the polypeptide or fragment thereof according to ~~any of the~~ claims ~~12 to 15~~ 38 or which is capable of binding to the polypeptide according to ~~any of~~ claims ~~12 to 15~~ 38 comprising:

a) contacting an isolated or immobilized polypeptide according to ~~any of the~~ claims ~~12 – 15~~ 38 or a fragment thereof with a candidate antagonist under conditions to permit binding of said candidate antagonist to said polypeptide or fragment thereof, in the presence of a component capable of providing a detectable signal in response to the binding of the candidate antagonist to said polypeptide or fragment thereof; and

b) detecting the presence or absence of a signal generated in response to the binding of the antagonist to the polypeptide or fragment thereof, preferably the presence of a signal indicating a compound capable of inhibiting or reducing the activity of the polypeptide or fragment thereof.

26. (currently amended) A method for identifying an antagonist capable of reducing or inhibiting the activity of a polypeptide or a fragment thereof according to ~~any of~~ claims ~~12 to 15~~ 38 comprising:

a) providing the polypeptide according to ~~any of the~~ claims ~~12 to 15~~ 38 or a fragment thereof,

b) providing an interaction partner of the polypeptide according to ~~any of the~~ claims ~~12 to 15,~~ 38 ~~preferably an antibody according to claim 21 or 22~~.

c) providing a candidate antagonist,

d) reacting the polypeptide, the interaction partner of the polypeptide and the candidate antagonist, and

e) determining whether the candidate antagonist inhibits or reduces the activity of the polypeptide.

27. (currently amended) A method for identifying an antagonist capable of reducing or inhibiting the interaction activity of the polypeptide according to ~~any of~~ claims ~~12 to 15~~ 38 or a fragment thereof to its interaction partner comprising:

a) providing the polypeptide according to ~~any of~~ claims ~~12 to 15~~ 38 or a fragment thereof,

b) providing an interaction partner to said polypeptide or a fragment thereof, ~~preferably an antibody according to claim 21 or 22~~,

c) allowing interaction of said polypeptide or fragment thereof to said interaction partner to form an interaction complex,

d) providing a candidate antagonist,

e) allowing a competition reaction to occur between the candidate antagonist and the interaction complex, and

f) determining whether the candidate antagonist inhibits or reduces the interaction activities of the polypeptide or the fragment thereof with the interaction partner.

28. (currently amended) An antagonist ~~identified or identifiable by a~~ of the method according to claim 26 or 27.

29. (currently amended) A process for *in vitro* diagnosis of a bacterial infection~~, preferably *Streptococcus agalactiae* infection,~~ comprising the step of determining the presence of a the nucleic acid molecule ~~according to any~~ of ~~the preceding~~ claims 7, or of a the polypeptide according to ~~any of the preceding~~ claims 38.

30. (currently amended) A process for *in vitro* diagnosing a disease related to expression of the polypeptide ~~according to any~~ of claims ~~12 to 15~~ 38 or a fragment thereof, comprising determining the presence of a nucleic acid sequence encoding said polypeptide or a fragment thereof ~~according to any of claims 1 to 8, or the presence of the polypeptide according to any of claims 12 to 15 or a fragment thereof~~.

31. (currently amended) An affinity device comprising a support material and immobilized to said support material ~~a~~ the polypeptide according to ~~any of the preceding~~ claims 38 or ~~a~~ the nucleic acid molecule according to ~~any of the preceding~~ claims 7.

32. (cancelled)

33. (cancelled)

34. (cancelled)

35. (currently amended) ~~Use of a polypeptide according to any of the preceding claims for the manufacture or generation of a functional nucleic acid, whereby the functional nucleic~~

~~acid is selected from the group comprising~~ An aptamers ~~and~~ or spiegelmers which binds to the polypeptide of claim 38.

36. (cancelled)

37. (currently amended) ~~Use of a nucleic acid according to any of claims 1 to 8, for the manufacture or generation of a functional ribonucleic acid, wherein the functional ribonucleic acid is selected from the group comprising~~ A ribozymes, antisense nucleic acids ~~and~~ or siRNA which binds to the nucleic acid of claim 7.

38. (new): An isolated polypeptide comprising G-N/S/T-V-L-A/E/M/Q-R-R-X-K/R/W-A/D/E/N/Q-A/F/I/L/V/Y-X-X-K/R-X-X (SEQ ID NO:222) or a derivative thereof which binds to a Group B streptococcus.

39. (new): The isolated polypeptide of claim 38, comprising at least two copies of SEQ ID NO:222.

40. (new): The isolated polypeptide of claim 39, comprising 19 copies of SEQ ID NO:222.

41. (new): The isolated polypeptide of claim 38, which comprises an adhesion molecule.

42. (new): The isolated polypeptide of claim 38, wherein said adhesion molecule interacts with epithelial cells.

43. (new): The isolated polypeptide of claim 42, wherein said epithelial cells are human.

44. (new): The isolated polypeptide of claim 38, having fibrinogen-binding activity.

45. (new): The isolated polypeptide of claim 38, having adhesion activity.

46. (new): A vector comprising a nucleic acid molecule encoding the isolated polypeptide of claim 38.

47. (new): The vector of claim 46, wherein said vector is an expression vector.

48. (new): A cell comprising the vector of claim 46 or 47.

49. (new) The method of claim 26 or 27 wherein the interaction partner is an antibody.